of the Belawan river, northeast Sumatra (03° 45′ N, 98° 40′ E). They were larger than *Haliastur* with proportionately longer and shallow furcated tail, blackish brown with pale mottling on the head, venter and lower wing-coverts, and with a prominent white basal patch on the underside of the primaries.

Though overlooked by all recent authors, Medway & Wells included, the British Museum (Natural History) possesses a nineteenth century specimen (reg. no. 87.1.11.556) marked Sumatra. From label data I have assumed it to be the skin referred to *M. govinda* by Wardlaw Ramsay (1880) in a review of Sumatran material sent to the Marquis of Tweeddale by the Swedish explorer Carl Bock. It is an unsexed immature and on wing-length (456 mm maximum chord) falls actually within the zone of overlap of this northern tropical subspecies *M. m. govinda* with the eastern Palaearctic *M. m. lineatus* (Brown & Amadon 1968). The width of its pale ventral streaks, typically narrow in *govinda*, is also intermediate but a large white patch on the primaries like that of the Belawan bird(s) is suggestive of *lineatus*. Date and locality are not recorded, but according to Wardlaw Ramsay, Bock made his collection between August 1878 and January 1879 in the Padang region of western Sumatra. Bock (1882) himself mentions *M. govinda* in an appendix entitled 'List of birds collected in the highlands of the West Coast of Sumatra'. This appendix admittedly includes one or two normally lowland species, but Padang town, Bock's point of entry into West Coast province, is on its narrow coastal plain and he very probably took a few birds during journeys to or from the interior. It is reasonable therefore to accept this specimen as extending the known range of northern Black Kites in the Sunda region south to the equator.

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The genus *Criniger* (Pycnonotidae) in Africa

by G. D. Field

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The bearded bulbuls *Criniger* of the forests of west and equatorial Africa cause some difficulty to the taxonomist. There are 3 certain species: *olivaceus*, ranging from Sierra Leone to Ghana; *barbatus*, from Sierra Leone to the eastern Congo; and *calurus* from Guinea Bissau to Uganda. In the west there is no problem: *olivaceus* has a bright yellow throat and olive underparts, *barbatus* a pale yellow throat, greyish underparts, *calurus* a white throat and yellow underparts. In the east complications arise: the forms of *barbatus* from

Cameroon eastwards, the *chloronotus* group, have white instead of yellow throats, and Hall & Moreau (1970) "regard them as incipient species". Normal *C. calurus* extends over the whole area, but from Nigeria eastwards a bird virtually indistinguishable in appearance but with a finer bill occurs, *ndussumensis*, variously regarded as a race of *calurus* (Chapin 1948), a full species (Hall & Moreau 1970) "which may hybridise occasionally with it [*calurus*] in the eastern Congo", or a race of *olivaceus* (White 1956). This last view is followed by Mackworth-Praed & Grant (1973) who complicate the issue with the following sentence: "they [*C. olivaceus ndussumensis* and *C. calurus emini*] are, in fact, sibling species, only to be definitely known apart by the strength of the bill, if indeed they really are distinct species".

Chapin (1953) claimed that there was no distinction in habits and voice between *C. calurus emini* of most of the Congo and *C. c. ndussumensis* which he restricted to the Semliki valley and environs on the strength of the more rufous tails of the population there. However, as he did not appreciate that bill size was the only constant character dividing the two forms, he may not always have realised which form he was observing, and he remarks significantly that *C. c. emini* "at times was watched climbing with unexpected persistence on the bark of trees".

The key to the position of *ndussumensis* must lie in its behaviour. If it is specifically distinct from *calurus*, it will not sound and behave in exactly the same manner. My purpose here is to describe the behaviour of *C. olivaceus* in comparison with that of the other *Criniger* species in the hope that light may thus be shed on the eastern bird.

C. olivaceus is very rare in collections but is, in fact, moderately common in the most easterly primary forest in Sierra Leone where it is sympatric with the two larger, commoner, and more widespread species. Here there can be no possibility of confusion with *calurus*, throat colour being quite different. There can be momentary confusion with *barbatus* in the gloom of the forest where size is an unreliable guide, but the throat of *olivaceus* is a much brighter yellow and the underparts olive yellow instead of the darker, greyish olive of *barbatus*.

In Sierra Leone both *barbatus* and *calurus* are noisy and obtrusive members of the bird armies, though *barbatus* may also be found on its own. Their ringing cries, some of them difficult to differentiate, are often the first indication of the presence of these armies. Both inhabit the mid-interior of the forest from shrub layer to lower canopy, *barbatus* tending to keep lower than *calurus*. Both are mainly insectivorous but have been seen eating unidentified liane berries and *Musanga* fruit. Food is taken after a flight, the commonest technique being to seize prey off the leaves in flutter flight, and the same method is used with berries.

The behaviour of *olivaceus* is totally different. It is usually, though not always, with the bird armies, a silent bird, the only known calls being undistinguished little "chups". It is wholly insectivorous and food is obtained by searching the trunks and branches of trees, the birds clinging in an almost nuthatch-like manner, peering into crevices and even investigating the undersides of branches, thus more nearly approaching the *Phyllastrephus* mode of hunting than that of other *Criniger* species. Altitudinally, they range from stumps to the upper branches of trees, higher than is normal for the other

species. Any 'bearded bulbul' behaving in this manner can here at once be identified as *olivaceus*.

It remains for field studies to be made of *ndussumensis* in Nigeria or elsewhere. But I suspect that White will be found to have been right in making it a race of (or, if we prefer, a member of a superspecies with) *olivaceus*. Just as the yellow-throated *barbatus* of Upper Guinea gives place to a white-throated form, so the yellow-throated *olivaceus* gives place to a white-throated form, and Chapin's observations on behaviour take on an added significance once the behaviour of *olivaceus* is known. If this is so, field identification should be possible throughout the species' range.

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Notes on sexual dimorphism and the nest of the Greenish Puffleg *Haplophaedia aureliae caucensis*

by Karl-L. Schuchmann

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The Greenish Puffleg *Haplophaedia aureliae* occurs in the subtropical zone from eastern Panama south to northern Bolivia (Meyer de Schauensee 1970). In the western Andes of southern Colombia *H. a. caucensis* is abundant in primary and secondary forests where it feeds and nests along trails and small rivers. It seldom leaves the dense vegetation or feeds at levels higher than 3 m (Schuchmann 1977). The hummingbirds of the Cauca Valley and the western Andes near Cali were the subject of a trapping programme in July/August 1976 and in January/February 1977. Data were collected on 10 individuals of the Greenish Puffleg trapped at km 15 on the road Cali to Buenaventura at an elevation of 2100 m.

No significant sexual differences in measurements could be found (Table 1). The oft-cited criterion of a more deeply forked tail in males (Zimmer 1951) could not be corroborated by examination of 4 specimens sexed by dissection.

Table 1

Mensural and weight characteristics of the Greenish Puffleg *Haplophaedia aureliae caucensis*.

Character	Sex	Mean	SD	SE	Range	No.
Wing (mm)	M	55.8	3.62	1.62	60.1–51.0	5
	F	55.6	1.49	0.67	57.0–53.0	5
Tail (mm)	M	39.6	2.42	1.42	44.0–37.0	5
	F	34.4	1.20	0.54	35.0–32.0	5
Bill (mm)	M	21.4	0.53	0.24	22.0–20.8	5
	F	21.5	0.40	0.18	22.0–21.0	5
Weight (g)	M	5.5	0.45	0.20	6.0– 4.9	5
	F	4.9	0.14	0.06	5.1– 4.7	5

Values of males and females were not significantly different at a probability level of 5% (Mann-Whitney U-test, Sokal & Rohlf 1969).